Diabetes and Tobacco in Wyoming





State of Wyoming Department of Health

Diabetes and Tobacco in Wyoming Data Brief

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Introduction

Diabetes is a considerable health burden in the United States (U.S.). For U.S. residents born in 2000, an estimated one in three will develop diabetes during their lifetime. Diabetes affects 25.8 million people or 8.3% of the population in the United States and it is estimated that an additional 79 million people have prediabetes, a condition in which an individual has blood sugar levels that are higher than normal, but not high enough for a diagnosis of diabetes. The American Diabetes Association estimates that diabetes costs U.S. society \$245 billion annually (2012), representing a \$71 billion increase from previous estimates of \$174 billion (in 2007 dollars).

Diabetes is associated with increased risk of cardiovascular disease, renal disease, and retinopathy. Studies have estimated that 21% of all coronary heart disease deaths and 13% of all stroke deaths are attributable to high blood glucose levels.⁴

People with diabetes have large reductions in life expectancy. If diagnosed at age 40, it is estimated that a male will lose 11.6 life years and 18.6 quality adjusted life years and a female will lost 14.3 life years and 22 quality adjusted life years.¹

While obesity is likely the strongest modifiable risk factor for type 2 diabetes, studies have shown an association between smoking and an increased risk of type 2 diabetes in both men and women.⁵ Tobacco use can increase blood sugar levels⁶ and lead to insulin resistance.⁷ Studies have reported that cotinine, a metabolite of nicotine, is positively correlated with insulin resistance suggesting that nicotine may play a role in diabetes development.⁸ People who smoke more than 25 cigarettes per day almost double their risk of developing diabetes when compared to nonsmokers.⁹

Furthermore, diabetes and elevated glucose levels have been reported to increase the relative risk of getting cancer by 20-30%.¹⁰

Smoking and diabetes are a dangerous combination. Smoking increases risk of experiencing diabetes complications, including damage to the eyes, kidneys and nerves. People with diabetes are at an increased risk for heart attack and stroke and smoking with diabetes further increases that risk.¹¹

There is less research on smokeless tobacco and diabetes. However, smokeless tobacco contains added sugar, which can affect blood sugar levels. Smokeless tobacco users have higher incidence of diabetes and smokeless tobacco has been associated with insulin resistance. Smokeless tobacco use increases the risk of mouth sores and these sores can become infected. Diabetes increases the risk of infection; therefore, the risk of these sores becoming infected may be higher in people with diabetes. ¹²

Incidence and Mortality of Diabetes

Mortality

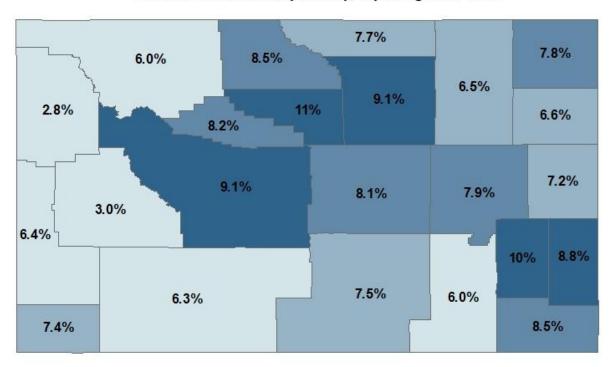
In 2011, diabetes was the seventh leading cause of death in the United States¹³ and the seventh leading cause of death in Wyoming.¹⁴

Prevalence

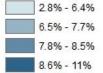
According to data from the 2011 Behavioral Risk Factor Surveillance System* 8.2% of Wyoming adults (over age 18 years) reported they had been told they had diabetes and 6.4% of Wyoming adults reported they had pre-diabetes or borderline diabetes; together, diabetes and pre-diabetes affect approximately 61,000 Wyoming adults.¹⁵

The map below shows diabetes prevalence by Wyoming County from 2007-2011. Darker shaded counties indicate a higher prevalence, while lighter shaded counties had a lower prevalence.

Diabetes Prevalence by County, Wyoming 2007-2011





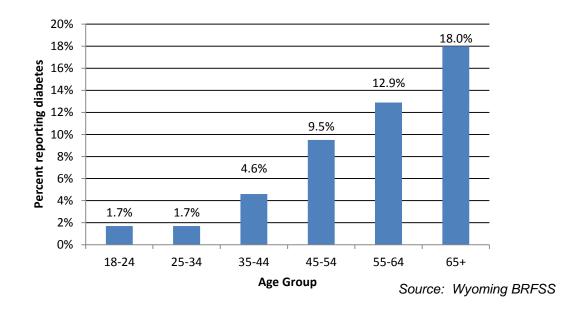


Source: Wyoming BRFSS

Among Wyoming adults, diabetes prevalence is similar among males (8.3%) and females (8.1%).

Figure 1 shows diabetes prevalence by age group for Wyoming in 2011. The prevalence of diabetes is higher among older adults.

Figure 1. Diabetes Prevalence by Age, 2011 Wyoming

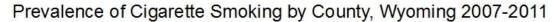


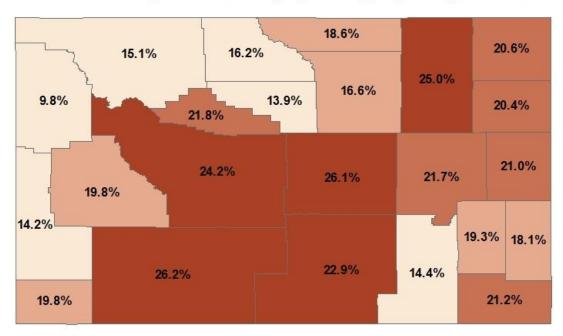
Tobacco Use in Wyoming

According to the 2011 Wyoming BRFSS data, 23.0% of Wyoming adults currently smoke tobacco.*

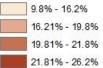
The map below shows current cigarette use by Wyoming County from 2007-2011. The percentages are based on Wyoming adults who reported having smoked at least 100 cigarettes in their lifetime and currently smoking every day or some days. Use is highest in the darker shaded counties and lowest in the lighter shaded counties.

^{*}NOTE: The 2011 BRFSS data reflects a new method in data-weighting (raking) and puts more weight on cell-phone only and younger (18-35) participants than previous surveys. This new weighting method resulted in significant increases in some behaviors from 2010 to 2011, namely tobacco and alcohol use. Other variables were not as affected by this new weighting methodology.





Smoking Prevalence

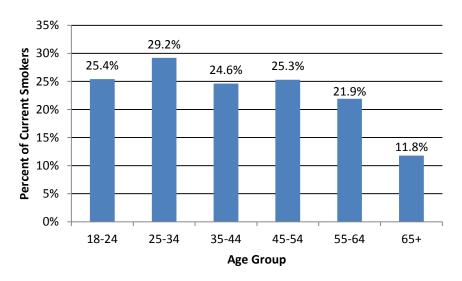


Source: Wyoming BRFSS

Current smoking among Wyoming adults in 2010 did not significantly differ by sex, with 20.2% of males and 18.9% of females reporting current smoking.

Figure 2 shows the prevalence of current smoking by age group among Wyoming adults. Rates are similar across age groups with the exception of the 65 years and older group, where rates are significantly lower than any other age group, which could be a function of the decreased lifespan in smokers.

Figure 2. Current Cigarette Smoking by Age, Wyoming 2011



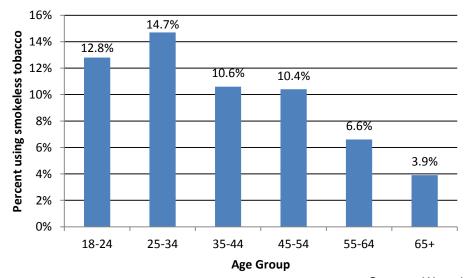
Source: Wyoming BRFSS

Among Wyoming adults, 9.8% said they currently use smokeless tobacco, which was the highest rate in the nation in 2011.

Current smokeless tobacco use among Wyoming adults in 2011 was significantly higher among males compared to females, with 17.9% of males and only 1.5% of females reporting current smokeless tobacco use.

Figure 3 shows the prevalence of smokeless tobacco use by age group among Wyoming adults. Rates are similar across age groups with the exception of the 65 years and older group, where rates are significantly lower than any other age group.

Figure 3. Current smokeless tobacco use by age, Wyoming 2011



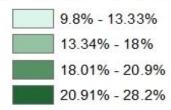
Source: Wyoming BRFSS

The map below shows current smokeless tobacco use among adult males by Wyoming County from 2007-2011. Use is highest in the darker shaded counties and lowest in the lighter shaded counties.

Prevelance of Current Smokeless Tobacco Use among Male Adults by County, Wyoming 2007-2011



Prevalence of Smokeless Tobacco Use



Source: Wyoming BRFSS

Tobacco Use among People with Diabetes in Wyoming

According to 2011 Wyoming BRFSS data, diabetes prevalence is higher among adults who reported they had ever smoked (10.3%) compared to adults who did not have a history of smoking (6.2%). Diabetes prevalence is not significantly different among current vs. non-smokers (8.4% non-smoker, 7.5% current smoker). ¹⁵

Slightly more adults who reported they were current smokers had pre-diabetes (6.6%) than adults who were not current smokers (6.4%). Additionally, pre-diabetes prevalence was higher among adults who had ever smoked (6.9%) compared to those who never smoked (6.0%). ¹⁵

Program Information

Wyoming Tobacco Prevention and Control Program



The Wyoming Tobacco Prevention and Control Program (TPCP) implements evidence-based strategies to address nationally recognized goals to: eliminate exposure to secondhand smoke, reduce tobacco initiation among youth, promote cessation and address populations that suffer disparately from the health or economic effects of tobacco. Activities directed toward the accomplishments of these goals are carried out by community-based prevention programs and the Wyoming Quit Tobacco Program (WQTP), which provides cessation services through telephone and/or

web-based enrollment. More information about the program can be found at www.wy.quitnet.com.

Wyoming Diabetes, Heart Disease and Stroke Prevention and Control Program



The risk of developing diabetes, and the complications associated with the condition are of growing concern statewide; therefore, addressing these issues is a public health responsibility and priority. The Diabetes, Heart Disease and Stroke Prevention and Control Program (DHDSPCP) is focused on coordination and implementation

of research-based policies, practices, and programs at the state and community level that address the growing burden of diabetes, heart disease and stroke, and associated risk factors, such as poor nutrition and inadequate physical activity. The DHDSPCP is dedicated to promoting and supporting health and well-being for Wyoming's residents through cross-sector partnerships and collaborative efforts, workforce development efforts, strategic communication, and continuous program quality improvement.

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